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Effect of Vitamin D Therapy on Maternal and Neonatal Indices in Pregnant Women with Hypocalcemia: A Clinical Trial in Qazvin, Iran

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Results of studies on the effect of treatment with vitamin D therapy on maternal calcium level and fetal growth are not consistent. The aim of this study was to determine the effect of treatment with vitamin D on maternal and neonatal indices in pregnant women with hypocalcemia. This clinical trial was conducted on 110 pregnant women gestational age (22-26 weeks) with simultaneous mild hypocalcemia (8< serum calcium< 8.5 mg/dl) and vitamin D deficiency (25(OH) vit D < 75 nmol/l). Study subjects were randomly allocated to intervention and control groups, The subjects in the intervention group were treated with 50000 U vitamin D for eight weeks and daily elemental calcium from single company, while control subjects received daily prenatal capsules including 400 U vitamin D and 250 mg elemental calcium from a single company. At delivery, maternal calcium and 25(OH) vit D level and neonatal indices (weight, height, and head circumference) were measured and compared between the groups. Mean maternal vitamin D level was 97.5±23.4 nmol/l in the intervention group and 48.9±17.2 nmol/l in the control group (P<0.001). Mean maternal calcium level did not differ significantly different between the two groups. Mean neonatal weight, height, and head circumference were not significantly different between the two groups. Considering the results, treatment with vitamin D does not affect serum calcium and neonatal indices in cases of mild hypocalcemia in pregnancy if vitamin D deficiency is not severe.

Keywords: Vitamin D; Pregnancy; Hypocalcemia; Fetal development